

## REMARKS

### **Summary**

Claims 1, 2, 9, 10, 36 and 68-70 were pending. Claims 1, 2, 9, 10, 36 and 70 were rejected. The Examiner withdrew Claims 68-69 as having been drawn to a non-elected invention. The Applicant has carefully considered the references and reasons advanced by the Examiner and respectfully traverses the rejections in view of the discussion presented below.

### **Claim Rejections**

#### **35 U.S.C. § 103 (a)**

Claims 1, 2, 9, 10 and 70 were rejected under 35 U.S.C. §103 (a) as unpatentable over Leung et al. (US 5,610,492; "Lueng") in view of Schaeffer (US 4,315,171; "Schaeffer"), and the same claims as being unpatentable over Wavre (US 5,642,013; "Wavre") in view of Schaeffer.

Claim 1 recites, *inter alia*, a rotor having a plurality of permanent magnetic poles circumferentially arranged.

The Examiner states that Leung teaches "a rotor (26) having a plurality of permanent magnet poles..." (Office action, page line 4) In contrast Leung specifically teaches that "[i]t is therefore an object of the invention to eliminate permanent magnets from stepper motor construction." [emphasis added] (Leung, col. 1, lines 46-47). Leung further teaches that "the fields developed by the coils will selectively magnetize the teeth 26 to form temporary poles." (Id. col. 3, lines 56-58. Therefore Leung cannot be relied upon to teach a rotor having a plurality of permanent magnet poles, and the Examiner does not suggest that the secondary reference remedies this defect. Moreover, any attempt to make the teeth 26 as permanent magnets would render the motor taught by Leung inoperative, and an inoperative combination cannot be used to make out a *prima facie* case of obviousness. For at least these reasons

Claims 1, 2, 9, 10, 36 and 70 are patentable over the combination of Leung in view of Schaeffer.

With respect to the rejection of Claim 1 as unpatentable over Wavre in view of Schaeffer, the Examiner asserts that Wavre teaches all of the elements and limitations of the present Claim 1, except that “Wavre does not show the stator extending not more than 180 degrees with respect to a central angle of the rotor.” Schaeffer is used in an attempt to remedy this deficiency in Wavre’s teaching, and the Examiner asserts that the reason for the combination is “for the purpose of making better utility of laminations stock.” The Applicant respectfully traverses this rejection on the basis that the combination suggested by the Examiner is taught away from by Wavre.

Wavre is directed towards a linear or rotary synchronous motor in which the reluctant effect is to be minimized, and “the reduction of the reluctant effect will be all the greater when the number of slots is large.” (Wavre, col. 5, lines 33-34), and “a large number of slots that enable[s] the reluctant effect to be reduced in a remarkable manner.” (Id., col 5, lines 37-39). Wavre describes a slot 2 as the space between two stator teeth. Thus, a large number of slots require a large number of stator teeth. Conversely, Schaeffer, in the aspect relied upon by the Examiner, is directed towards reducing the angular extent of the stator, with a concomitant reduction in the number of stator teeth, which has the effect of reducing the benefits of a large number of stator teeth as taught by Wavre.

In *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994) the court stated:

[a] reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the

path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.

Thus, when the primary reference teaches away from a configuration, the Examiner may not use the teachings of the secondary reference to advocate an obviousness aspect of their combination as it will change the principle of operation of the motor taught by Wavre. Therefore, the Examiner has not made out a *prima facie* case of obviousness.

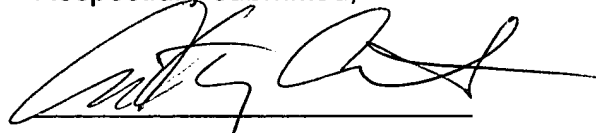
Further, Claims 2, 9-10, 36 and 70 are claims dependent on an allowable independent claim and are allowable, without more.

### **Conclusion**

Claims 1, 2, 9-10, 36, and 70 are pending. For at least the reasons given above, the Applicant respectfully submits that Claims are allowable.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Anthony P. Curtis', written over a horizontal line.

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